

PERFORMING MULTICAST COMMUNICATION IN COMPUTER NETWORKS BY USING OVERLAY ROUTING

ABSTRACT OF THE DISCLOSURE

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An overlay protocol and system for allowing multicast routing in the Internet to be performed at the application level. The overlay protocol uses "native" Internet multicast and multicast routing protocols to route information, according to overlay routing tables. Overlay groups are mapped to native multicast groups to exploit native multicasting in regional or local forwarding domains. Use of the overlay protocol allows overlay distribution to be handled in a more intelligent and bandwidth-managed fashion. Overlay routers are placed at each of several local area networks, Internet service provider's point of presence, enterprise, or other cohesively-managed locations. The overlay computers are configured according to bandwidth and security policies, and perform application-level multicast distribution across the otherwise disjoint multicast networks by using the overlay routing. The result is an overlay multicast network that is effectively managed according to local network management policies. Application-level control can be applied to the transferred data at the overlay routers.